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September 14, 1988

Senator Hiroshi Yamamura
P.O.Box 24
Majuro 96960
Republic of the Marshall Islands

Dear Senator Yamamura:

As you know, I worked as a consultant of Dr. Kohn in the "Rongelap Reassessment Project" at the request of the Rongelap people. (I have enclosed my statement for the Project for your information.)

One of the major problems which became apparent as the result of the study are the plutonium concentrations in urine of a large number of Rongelap people which could indicate that the U.S. dose limit of 5 rem over 30 years is exceeded for these individuals. Before we can say something more definite, extensive testing and analysis is necessary. I was surprised to learn that the U.S. Department of Energy has done little to resolve this issue in the 15 years since 1973, the year when elevated levels of plutonium were first found in urine of Rongelap people.

The reason why I am writing to you is my concern about the Utirik situation. Although I do not see a cause for alarm, I nonetheless believe that the plutonium contamination of Utirik atoll and of the Utirik people should be reinvestigated.

On Utirik Island, the average concentration of plutonium in the top 15 centimeters of soil was measured by Lawrence Livermore Laboratories[1] with 0.3 picocuries per gram which is equivalent to about 72,000 picocuries per square meter[2]. According to the 1982 report of the "United Nations Scientific Committee on the Effects of Atomic Radiation"[3], the average

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1 Robison W.L. et al. (1982c): The Northern Marshall Islands Radiological Survey: Terrestrial Food Chain and Total Doses; UCRL-52853 Pt.4

2 assuming 240 kilogram of soil per square meter

3 UNSCEAR - United Nations Scientific Committee on the Effects of Atomic Radiation (1982): Ionizing Radiation, Sources and Effects, New York

deposition of plutonium-239 and plutonium-240 from worldwide fallout of atomic tests up to the year 1979 was about 1,000 picocuries per square meter in the Northern hemisphere.

The plutonium concentration in soil on Utirik Island is therefore about 72 times the average for the Northern hemisphere. Although the 1982 report did not report results of plutonium contamination on Pigowak Island at Utirik Atoll, I expect that levels on Pigowak Island are about twice the levels found on Utirik Island. That conclusion is based on the levels of Cesium-137. Levels on Pigowak Island are thus probably about 150 times the average for the Northern hemisphere.

Plutonium was found not only in the urine of residents on Bikini and Rongelap, but in urine of Utirik residents as well. The levels were about 40% of those found for Rongelap[1]. Concern about those levels was expressed in a report by Dr. E.T. Lessard from Brookhaven National Laboratory to Mr. Ray, DOE dated October 4, 1983 (copy enclosed). After raising the issue that the plutonium levels found in urine of Bikini people "may represent a (..) dose of (...) 35 rem due to residing at Bikini Atoll[2]", Lesard mentions at the bottom of the letter that "similar results have been obtained at Rongelap and Utirik Atolls". (I have marked the sentences in the copy.)

Since Dr. Lessard wrote that letter to Mr. Ray, a new method to measure plutonium, the fission track method, was developed at Brookhaven National Laboratory. I do not know whether urine samples from Utirik residents were analyzed again with this new method and what the results have been. I learned that although the Rongelap samples were analyzed again with the new method, the amount of samples is insufficient to reach a definite conclusion about the plutonium body burdens of the Rongelap people. In the average, radioacitivity levels on Utirik are a factor of 2.6 lower than those on Rongelap.

I would like to emphasize again that I do no see an imminent cause for alarm. I would not be wise to jump to conclusions. I do believe, however, that the situation needs to be reevaluated. The Institute for Energy and Environmental Research *(ieer)* would be glad to provide professional help in such an effort. I have enclosed some material about our organization which has offices in Heidelberg, Federal Republic of Germany and in Takoma Park, Maryland, USA.

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1 see the enclosed article by E.T. Lessard and collegues:
on page 517, the estimated burden of plutonium-239 in the body of Rongelap women (age 15 years and older) is given with 380 Bequerel (a unit to measure radioactivity). On page 518, the estimated burden of plutonium-239 in the body of Utirik women (age 15 years and older) is given with 150 Bequerel. Levels for Utirik are therefore (150 Bequerel)/(380 Bequerel) = about 40% those for Rongelap.

2 For comparison: the U.S. dose limit is 5 rem over 30 years

Please feel free to contact me if you need assistance in this matter or if you have any comments or questions. I will be in the Heidelberg office (address at bottom of the letterhead) until Octiober 10. After that date, I can be reached at the U.S. office (address at top of the letterhead).

Yours sincerely,

Bernd Franke
(Executive Director)

Enclosures